Application Serial No.: 10/601,881

Applicant(s): Long et al.

Conclusion

In conclusion, Applicants wish to again thank the Examiner and the Examiner's Supervisor for the courtesy of their time and comments. Applicants respectfully submit that the Examiner's Office Action has been fully responded to and that the claims are in condition for allowance. In the furtherance of compact prosecution, if a personal or telephone interview would help expedite matters, the Examiner is requested to contact Steve Hunnius at 202-404-1554.

Kindly charge any additional fees due, or credit overpayment of fees, to Deposit Account No. 50-0281.

Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted.

Docket No.: N.C. 84,353

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Appendix A

 Creating electrode structures in aerogel forms leads to vast improvements in electrochemical performance

Polymer-nanoarchitecture hybrids

→Amplified electrode/electrolyte interface

→ Interconnected nanoscale particle network

Charge-storage mechanisms

1. ion-insertion

double-layer capacitance

nanoarchitecture 100 $Mn^{IV}O_2 + xe^- + xH^+$

nanostructured electrode Electropolymerization at

surface

H_xMn^{III},Mn^{IV}_{t-x}O₂

... but that's not the end of the story

 Extend the functionality and versatility of electrically conductive nanoarchitectures

electropolymerization

coating applied on the surface of the nanostructured metal oxide Utrathin, conformal polymer

Conformal coating can retain porosity and surface area of underlying oxide

Appendix B

Electrodeposition within nanoarchitectures

Controlling electrodeposition → Particularly for aperiodic, hierarchical pore structures within porous structure is problematic

Poorly controlled electrodeposition

Self-limiting electrodeposition Initial stages

Secondary stages

→ Utilize conditions where polymer growth is self-limiting